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EDUCATION AND THE CONSERVATION OF RESOURCES

By

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FOREWORD

This is the first in a series of current articles and discussions. This material is presented as one more way of keeping Southwest Region personnel in touch with the expression of current thinking and views in our field and related fields.

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EDUCATION AND THE CONSERVATION OF RESOURCES

"Can the schools build a new social order?" is a question asked frequently during recent years. The query might better be: "Do the schools have vision enough to save the one we already have?"

THE PROBLEM

The American nation consists of the descendants of some Europeans who, a few decades ago, were transferred from an old continent of meager resources to a new, unused one whose natural resources were the richest on earth. The transfer came just at a time when science and invention were really getting under way. The result today is 130,000,000 people in possession of a dangerous plaything. This plaything is an amazingly productive but voracious technology. It is so effective that during the last century we have converted more natural materials into economic goods than was accomplished during the entire prior span of human history. At the same time it has brought about a vastly greater degree of waste than ever before. Its very productiveness has dazzled men into looking at the result rather than at the source. We have been living far beyond our geographical income, eating into our principal. The result has been to produce a social order which most assuredly is in need of saving.

This becomes apparent when we take time to observe that our social order is derived from and rests upon a natural base of physical and biotic resources. Houses, ships, locomotives, telephones, asphalt streets, automobiles, factories, skyscrapers, microscopes, axes, penknives, or files are made out of physical materials. A suit of clothes, a cheese, a kilowatt of electricity, a lump of coke, an economics textbook, or a dose of aspirin is also made from certain natural resources and by the aid and

cooperation of certain others. A social order is very largely the sum total of all these things. A group of people having only wolfskin clothes, straw huts, firewood, hoe cake and beans, and flint tools cannot have much of a social order. But skins, huts, beans, and flints are themselves resources taken from the environment. Deplete or destroy these, and we have only man without huts, clothing, fuel, or tools, and no source for securing them. In such a state it would matter little whether men were fascist, democratic, or communistic, or anarchist.

Viewed in this light even the most rudimentary social philosopher concedes that society arises through the geographical process of man adjusting himself to the natural environment and adapting its resources to his needs. A necessary corollary to this is that where resources are scant the social order must be meager, and where resources are rich and abundant the social order is apt to be opulent, active, and complex.

FUNDAMENTAL FACTORS

Nature has distributed resources very unequally over the earth. Owing to the whims of the gods of biology, geology, climatology, hydrology, and other natural realms, some countries received few resources; others were richly endowed. The United States was more liberally endowed than any other country on earth, and hence we have become richer than any other nation, possess the highest standard of living, use more luxury goods than all the other nations put together, and transact one-half of the world's business.

Most Americans, including many educators, have attributed this to the profitableness of democracy and to the superiority of the "American way." They have assured us that all we have to do is to hold fast to the "American way," and we will continue to enjoy these things. Democ-

racy is pleasant, but it so happens that it is usually not particularly profitable. We may preserve and hold fast to the "American way" forever, but this will not in itself perpetuate our prosperity. The two are simply not related to each other. Iceland is a wonderful country with unusually able people living under a democracy better than our own. It can never be rich, populous, nor important; its resources are too slim. In one-fourth the national lifetime of Iceland, the less democratic United States has become the wealthiest nation on earth. This is true for the same reason that if one has wood, iron, copper, gypsum, and cement materials he can build a house; but if one does not have these, he cannot. If one once had resources, but has used them up in building a house or has wasted them, he cannot build another, nor can he sell products and buy the materials for one. If a people have resources they can build an opulent social order; if they waste their substance they cannot maintain or replace that social order. Nor can they, with resources, secure them through foreign trade. Even ersatz commodities require basic source materials.

RESOURCES AND IDEAS

Why has not this dependence of society upon resources been made the center of popular attention, or received educational emphasis? The answer would seem to be twofold. First, the student of social science has been engrossed by the study of institutions and ideologies in society to the extent of overlooking the fact that the whole structure is made from natural resources. A Rockefeller church in New York is only the profits from vast oil fields, just as a European cathedral is the sum total of the sous or kopecks wrung from the cabbage, potato, and beet fields of the peasantry. A Carnegie library in Cleveland represents the

profitable combination of Pennsylvania coal and Minnesota iron ore. A great university in Seattle is the distillate of fish, saw logs, Yakima apples, and Palouse wheat. But little attention has been paid to these facts. Second, the original resources of our continent were so abundant as to stagger the imagination. The early settlers quickly evaluated these as inexhaustible and let the matter go at that. Ten generations of Americans have continued to regard their resources as so essentially limitless as to merit no attention. But they are not limitless--a fact which is fraught with considerable significance.

WASTE AND ULTIMATE RUIN

With the richest resource endowment ever possessed by any segment of mankind, America has erected a resplendent material culture; but this has meant a prolonged orgy of waste--a three-hundred-year Roman holiday--with no thought of the future. Our national resources are still abundant, but their exhaustibility has suddenly become apparent to anyone who will look. Moreover, they have begun to wear so thin in places, that it is evident that unless remedial action be taken, our social order must soon enter a decline. It can be prevented from doing so only by a thorough-going and sustained program of conservation. Three-fourths of our lumber is gone, 80 percent of our wild game, half of our copper, two-thirds of our petroleum, one-third of our anthracite, and a large fraction of our richer iron ores. Nearly half of our national area has been subjected to soil erosion, and we have completely destroyed twice as much agricultural land as the Japanese nation possesses--all within the span of a few score of years.

The seats of most ancient empires are today marked by ruin and desolation. Such devastation was wrought slowly, but we in America have,

in contrast, wrought swiftly. Within a mere 150 years we have accomplished an undreamed-of amount of destruction. Moreover, the rate of destruction has been progressing at a cumulative rate. It has, indeed, become so threatening that only a hermetically sealed optimist could ignore its implications. The chief difficulty lies in the fact that people in general have not been made fully aware of what is happening, they have not been apprised of what it portends, and they have not been shown a way out. Clearly, this is a task for the schools.

EVIDENCES OF WASTE

On every hand there are evidences of waste, destruction, and needless exploitation in thousands of different forms. The problem may be simplified, however, by reducing it to some twelve propositions:

1. Soil is depleted or destroyed.
2. Forests are cut-over and burned.
3. Water resources are wasted or polluted.
4. Grasslands are overgrazed.
5. Wild life is not protected.
6. Minerals are wasted.
7. The flood menace is being augmented.
8. The wrong areas have often been cleared, drained, or irrigated.
9. Scenic and recreational resources are being defaced.
10. Communities are allowed to develop along lines unfit for living.
11. Human and cultural resources are allowed to deteriorate.
12. Economic production is not equated to social needs.

These, collectively, indicate a fundamentally erroneous "way of life," eventually leading to economic decline and social ruin, and avoidable only by heroic measures. The problem cannot be legislated out of existence, for laws are ineffective or inoperable when they strike directly at a people's way of life, unless they are supported by popular ideas. Scientists already possess the necessary ideas; hence the task becomes one of transplanting ideas from the mind of the scientist to the minds of the populace. Lacking a Minister of Propaganda in the United States, the assignment clearly devolves upon our school system.

CONSERVATION

The first transplantable and cultivable idea is that it is possible to preserve the physical basis of our social order, if action be not delayed too long, through a program of conservation. This is not a simple program, but a variegated one which ramified into every field of science, industry, and social behavior. For our inexhaustible resources, it calls for the substitution of utilization for nonutilization, of full use for partial use or misuse or waste, and of social use for selfish use. For our replaceable resources it requires the initiation of remedial action before it is too late for such measures, and for the setting up of safeguards against future depletion. For our exhaustible resources it demands that some balance be struck between the needs of our generation and those of future generations to come. Furthermore, in connection with those of this latter class of resources which are earmarked for our own generation, it involves substitution of inexhaustible or replaceable resources wherever possible, for deferred use in some instances, and for fuller utilization through community, state, and national planning in

all instances.

EDUCATIONAL OBJECTIVES

This is not a program which can be achieved by fiat, but rather by changing our fundamental social philosophy through education. If such conservation education is ever to be successful it must realize the following ten objectives:

1. To develop a popular understanding of natural resources. The average man has, at best, only a rudimentary notion of what resources are. Even the supposedly educated man may have no more than a vague idea that wood is cut from some remote forest, iron and gold are dug out of the ground, petroleum is spouted mysteriously from wells, that some waters yield salmon, and that these substances are used more or less incidentally in the economic world. This idea should be enormously expanded, for natural resources include an almost endless list of utilizable materials, from climate, soil, ground water, surface waters, et cetera, at one end, thence through all the physical and biotic materials to landscape beauty, recreational resources, and geographical location at the other end.

The citizen should be made aware of these, know what role they play in building civilization, how they are used, and into what classes they fall as regards their abundance and exhaustibility.

2. To create geographical habits of thinking. There is an almost universal habit of regarding our social and economic institutions as purely man-made structures. And yet the Chase National Bank, Columbia University, St. Patrick's Cathedral, the Creer Library, the Mellon art collection, and the C. I. O. have all taken their origins and continue to operate because and only because of the ceaseless exploitation

of natural resources. Intelligent geographical thinking requires that we recognize that all such institutions (not to mention all social and political events also) are related to resources. To think of them together, as inseparable phenomena, will yield a perspective which our citizenry does not now possess.

3. To sensitize the individual to evidences of resource waste. Nowhere in America has the writer yet observed a single community where there were not obtrusive evidences of resource waste, destruction, unwise use, and depletion. Not even among the stable Pennsylvania Dutch communities are these evidences lacking. For generations the American pioneer fought the forest, destroyed wild animals, drained lakes, and built hideously and hurriedly, all in the name of developing the country. Hence most modern Americans are so conditioned to waste and disfigurement that they either escape their notice altogether or are accepted as inevitable. To one who has seen a Japanese, Hollandish, Thuringian, or Swiss landscape, it can never be regarded as inevitable. Moreover, to one who has seen the ruins east of Antioch, or the devastated areas of northwest China, northern Africa, or the American South it appears that destructive exploitation is more suicidal than inevitable.

4. To correct the belief that resources are inexhaustible. The writer grew up in a society where the inexhaustibility of our natural wealth was taken for granted. This is a heritage from the days when a handful of colonists looked westward at a vast uninhabited continent, appraised it, and concluded that here were land, fish, game, timber, minerals, and waterpower in such unlimited quantities that they would never see the end of them.

Today, 300 years later, the prospect looks quite different for

a mature nation of 130,000,000 people. One hears the expression "inexhaustible resources" less and less frequently these days, although one does encounter it still, even among intellectuals and in political high places. The idea must be rooted out with all possible speed.

5. To promote the idea of trusteeship in place of ownership. The longest-lived among us are here but a few years, and no matter to how much of nature we may secure legal title, we cannot take it with us when we die. Hence one is forced to conclude that we do not actually own anything. Mankind has already been here approximately one million years and seems destined to continue on for several million more. The implication of this is that ownership of the earth and its resources is vested in mankind or society rather than in individuals. We are, therefore, trustees rather than owners, and should be taught to give some consideration to the rights of the future generations of trustees yet unborn.

6. To dispel the notion that science is a substitute for resources. It is commonly believed that if we use up certain materials, the scientists and inventors will provide new substances. Almost universally this is regarded as an axiomatic truth by all ranks of men from unskilled laborers to university students. It is suggestive to note that while the layman thus puts his trust in the bounty of science, the scientist himself has no such conviction. Instead, he will probably point out that such a belief is perhaps the greatest single hindrance to the conservation movement today.

Science has substituted kerosene for whale oil, and steel for many uses of wood, but this means only substituting exhaustible and irreplaceable materials for replaceable ones. It has swapped us diesel oil for

coal, but this means a limited material for a fairly abundant one. It has taught us how to reuse scrap iron, but it has given us a luxury demand wherein a poor man may buy an automobile containing more iron than his grandfather used in a lifetime. Science has given us an imposing array of substitutes for many materials, but for every substitute discovered, two or three new uses have been invented.

7. To explode the idea that foreign trade can compensate for exhausted resources. We are suffering from a chronic attack of the world commerce idea. The belief is widespread that if we exhaust certain materials we can import them. But from where? Japan and Germany raise fish in ponds like chickens; France and other western European nations cultivate an inadequate supply of timber on a careful crop basis; China is mostly deforested; the Mediterranean countries are very largely treeless. The world already buys iron, copper, petroleum, phosphate, and lumber from ourselves in huge quantities.

The resources of Russia are undoubtedly large, but her industrialization is just getting under way. Long before she can have reached maturity her resources will have proved inadequate for her own needs. The world commerce idea, indeed, holds out little hope to any nation which is unwilling to conserve its own riches.

8. To create a new evaluation of ownership. Almost universal is the belief that the highest form of land ownership is the possession and holding in fee simple by the individual. For more than 150 years this has been evidenced by our hasty, ill-considered, almost feverish efforts to get the public domain into private hands. What has been true of land has also been true of all other natural resources. Our national philosophy seems to have been that land and other materials are failing to ful-

fill their destinies until gotten into absolute and unrestricted private ownership.

Some Americans are now coming to realize that various forms of public ownership are higher and more socially useful forms and should therefore take precedence. Here is an imperative task for re-education of the nation.

9. To build a new social philosophy of rights. Legally, one has the right to do about as he pleases with any gift of nature which he may happen to own. Soil may be destroyed, waters polluted, natural beauty defaced, and public convenience destroyed because of individual choice or desire. The resources of a community may be gutted and drained off to make profits for a few people located far away, leaving that community economically stranded.

Personal rights have received a vast deal of attention all through American history. More recently the expansion of public jurisdiction and eminent domain and the rights of the state have also received increasing notice. Meanwhile, the rights of society thus encroached upon from both ends have been largely overlooked. The schools need to teach the people that no person, or group, or community, or governmental unit has a right to use any resource in a manner inimical or damaging to the rights of society.

10. To cultivate a new community ambition. The ambition of nearly every community from Pumpkin Center, California, to New York City, is to grow and become large. "Watch X-ville grow" is the slogan of most chambers of commerce. Everywhere there is worship of the great god Growth. But community growth means expending exploitation of nature and increasing concentration and deprivation of human beings. Everything

which can be done to cause community growth has been attempted, but almost nothing has been done to make the community a better place in which to live. Everywhere, city planners complain that they can get no public support for even the most rudimentary social improvements. We need not to exploit more resources, but to learn to use wisely and more fully those already being exploited.

HOW SHALL WE DO IT?

It is truly astonishing how little attention may sometimes be given to matters of great national importance. What is everybody's business promptly becomes nobody's business. But resource waste is assuming such serious proportions that it must soon be made somebody's business, or else the United States will speedily be a dwindling country. When the average citizen is confronted with a big social problem he usually thinks "Let the Federal Government do it." In many cases this may be feasible, but there are certain drawbacks to handling this problem that way. Natural resources lie at the very root of our economic process, and any program of conservation must be intimately integrated with our whole social and economic fabric. For government to intervene forcibly into our economy on such a vast scale as would be necessary suggests the complete negation of democracy. At the very outset, then, we prefer tentatively to reject such a solution, but this leaves conservation as far from being realized as ever. Here is perhaps the biggest challenge which has yet appeared on the horizon. Moreover, it insists upon staying on the horizon and growing larger year by year. Can people, organized democratically, conserve the physical foundation of their social order? No one seems to know, but to deal with just such problems we have insisted upon building and maintaining a free and universal system of education. This free-

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dom for education is not just for fun, but for the serious purpose of creating public intelligence in social and economic affairs. Will we put education to work building a popular will for the conservation of national resources before it is too late?

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Conservation Service
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